



Directair 4 Series

Inline Valves

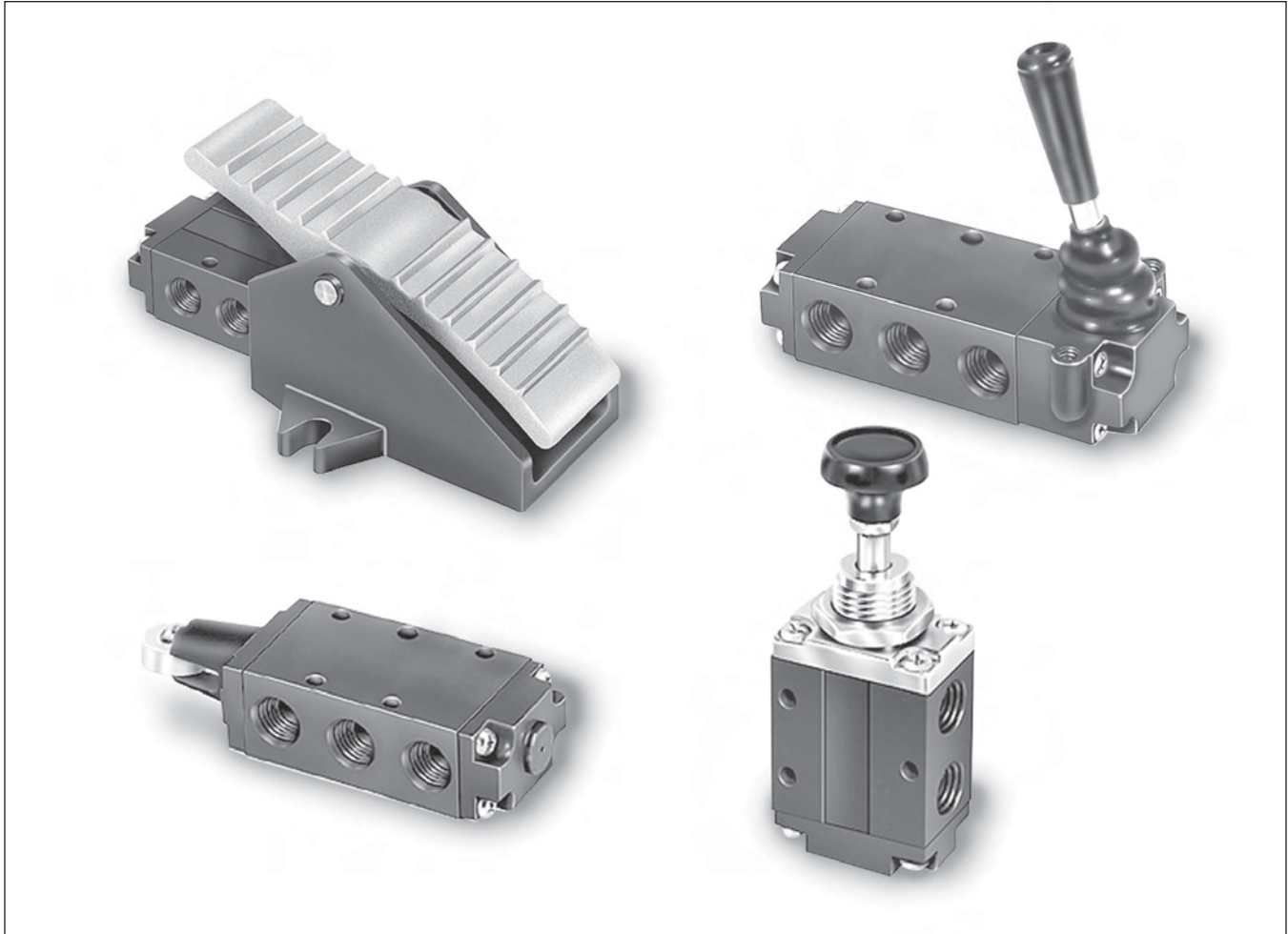
Manual / Mechanical

3 & 4-Way, 3 & 5-Port,

2 & 3-Position

Section F

www.parker.com/pneu/directair



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BOLD ITEMS ARE MOST POPULAR.

Brass
Poppet

LV / EZ

MO

Viking
Lever

42

Directair
4

Directair
2

F



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Directair 4 Series

Specifications

Inline Valve

- 1/4" Port
- 4-Way, 2 & 3-Position
- 3-Way, 2 & 3-Position

Manual Operators

- Lever
- Pedal
- Treadle
- Button

Mechanical Operators

- Roller

Packed Bore Style - .83 Cv

- Stainless Steel Spool
- Fluorocarbon O-rings

Operating Pressure

- Vacuum to 150 PSI
(28" Hg to 1035 kPa)

Operating Temperature

- 32 to 175°F (0 to 80°C)



Button Operated



Lever Operated



Treadle Operated

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Button Operated

- 524411000** Button Operated, Spring Return
- 524451000** Button Operated, Pilot Return

Spring Return

Normal Position – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

Actuated Position – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

Button Operated

- 524431000** Button Operated, Manual Return

Manual Return

Operator pulled last – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

Operator pushed last – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

Treadle Operated

- 524931000** Treadle Operated

Treadle

Toe pressed last – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

Heel pressed last – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

CAUTION:
 This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217. See Accessories page for Pedal Guard Kit.

Roller Operated

- 524211000** Delrin Roller Operated, Spring Return
- 524251000** Delrin Roller Operated, Pilot Return
- 524A11000** Steel Roller Operated, Spring Return
- 524A51000** Steel Roller Operated, Pilot Return

Roller

Normal Position – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

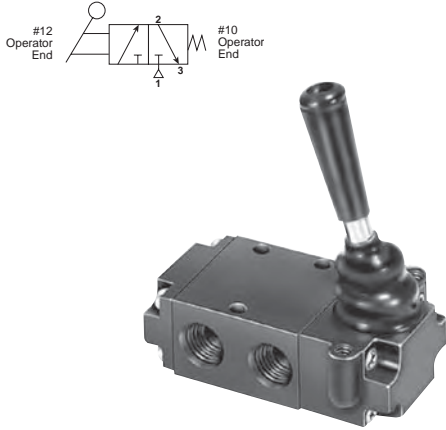
Actuated Position – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

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Lever Operated

524811000 Lever Operated, Spring Return



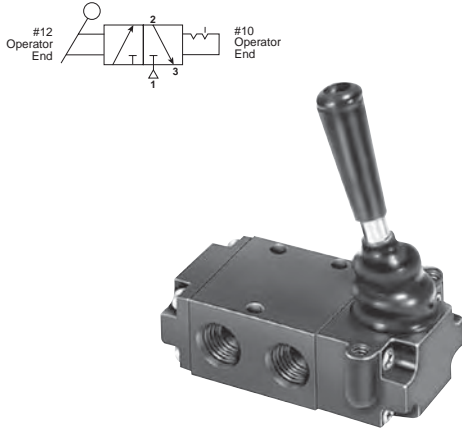
Spring Return

Normal Position – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

Actuated Position – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

Lever Operated

524831000 Lever Operated, Manual Return



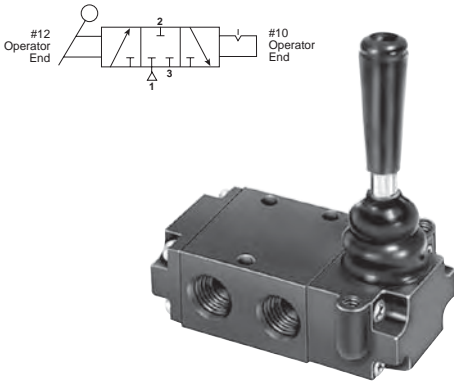
Manual Return

Operator pushed last (toward body) – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

Operator pulled last (away from body) – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

Lever Operated – 3-Position

523831000 Lever Operated, 3-Position Detented, All Ports Blocked



Lever

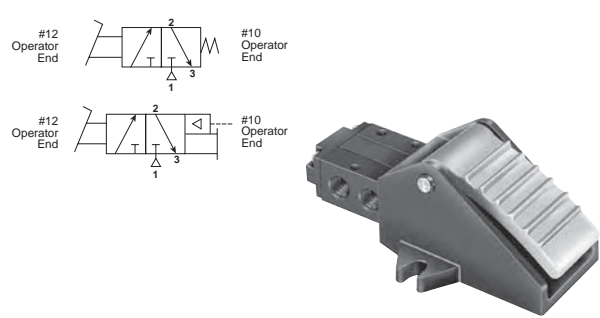
Operator pushed last (toward body) – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

Operator pulled last (away from body) – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

Center Position – All Ports blocked.

Pedal Operated

524711000 Pedal Operated, Spring Return
524751000 Pedal Operated, Pilot Return



Pedal

Normal Position – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

Actuated Position – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

CAUTION:
 This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.
 See Accessories page for Pedal Guard Kit.

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Button Operated

- 520411000** Button Operated, Spring Return
- 520451000** Button Operated, Pilot Return

Spring Return

Normal Position – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

Actuated Position – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

Button Operated

- 520431000** Button Operated, Manual Return

Manual Return

Operator pulled last – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

Operator pushed last – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

Pedal & Treadle Operated

- 520711000** Pedal Operated, Spring Return
- 520751000** Pedal Operated, Pilot Return
- 520931000** Treadle Operated

Treadle

Toe pressed last – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

Heel pressed last – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

CAUTION:
 This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217. See Accessories page for Pedal Guard Kit.

Roller Operated

- 520211000** Delrin Roller Operated, Spring Return
- 520251000** Delrin Roller Operated, Pilot Return
- 520A11000** Steel Roller Operated, Spring Return
- 520A51000** Steel Roller Operated, Pilot Return

Roller

Normal Position – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

Actuated Position – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

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Lever Operated

520811000 Lever Operated, Spring Return

Spring Return
Normal Position – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.
Actuated Position – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

Lever Operated

520831000 Lever Operated, Manual Return

Manual Return
Operator pushed last (toward body) – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.
Operator pulled last (away from body) – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

**Lever Operated, 3-Position
 Lever, Spring Centered**

521811000 Type 1, Closed Center
522811000 Type 2, Pressure Center
529811000 Type 9, Exhaust Center

Spring Centered, 3-Position
Lever Pulled (away from body) – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.
Lever Pushed (toward body) – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.
Centered Position –
Type 1: All Ports blocked.
Type 2: Pressure at Inlet Port 1 is connected to Outlet Ports 2 & 4.
Type 9: Pressure at Inlet Port 1 is blocked. Outlet Ports 2 & 4 are connected to Exhaust Ports 3 & 5.

**Lever Operated, 3-Position
 Lever, Detented**

521831000 Type 1, Closed Center
522831000 Type 2, Pressure Center
529831000 Type 9, Exhaust Center

Detented, 3-Position
Lever Pulled Last (away from body) – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.
Lever Pushed Last (toward body) – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.
Centered Position –
Type 1: All Ports blocked.
Type 2: Pressure at Inlet Port 1 is connected to Outlet Ports 2 & 4.
Type 9: Pressure at Inlet Port 1 is blocked. Outlet Ports 2 & 4 are connected to Exhaust Ports 3 & 5.

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Directair 4 Series

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- Directair 2

52 0 8 1 1 000

Basic Series	
1/4" Port Spool Valve	52

Manual / Mechanical	
000	Standard

Type	
4-Way, 2-Position Valve	0
4-Way, 3-Position, Closed Center	1*
4-Way, 3-Position, Pressure Center	2*
3-Way, 3-Position, Closed Center	3*
3-Way, 2-Position, Normally Closed	4
3-Way, 2-Position, Normally Open	6
4-Way, 3-Position, Exhaust Center	9*

* Only Available with Actuation 8 Lever.

Actuation	
Roller - Delrin	2
Button	4
Pedal	7
Lever	8
Treadle	9
Roller - Metal	A

Mounting	
0*	Base Mounted Valve Less Base
1	Direct Pipe Ported, NPT
3*	Subbase Mounted
L	Direct Pipe Ported, BSPP

* N/A with Actuation 7 or 9.

* N/A with Type 3, 4 or 6.

Return	
1††	Spring
3†	None (Manual Return)
5*	Remote Pilot Return

* N/A with Actuation 8 & 9.

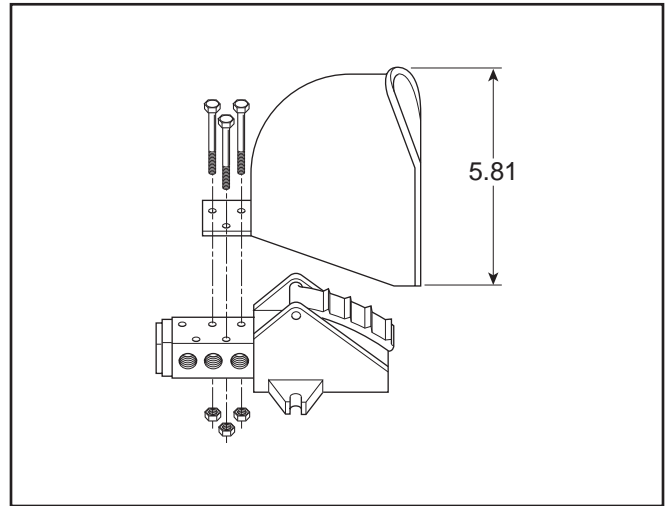
† N/A with Actuation 2, 7 or A.

†† N/A with Actuation 9.

**Pedal Guard Kit
 No. 52071 8001**

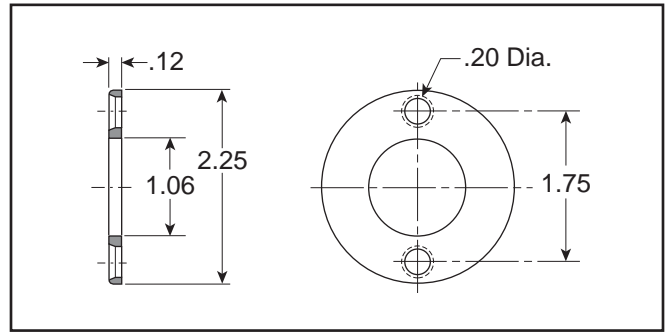
Pedal guard meets safety requirements for foot operated valves by protecting pedal from accidental tripping from all angles. Guard is constructed of lightweight aluminum casting for strength and durability. Bolts quickly into place with only three screws without special valve mounting. One model fits any pedal (not treadle) operated "Directair 4" Series valve.

⚠ CAUTION:
 This valve shall not be used to actuate a punch press.
 Do not use this valve on punch presses or press brakes.
 See OSHA 1910.217.



**Panel Mounting Kit
 No. 52083 8004**

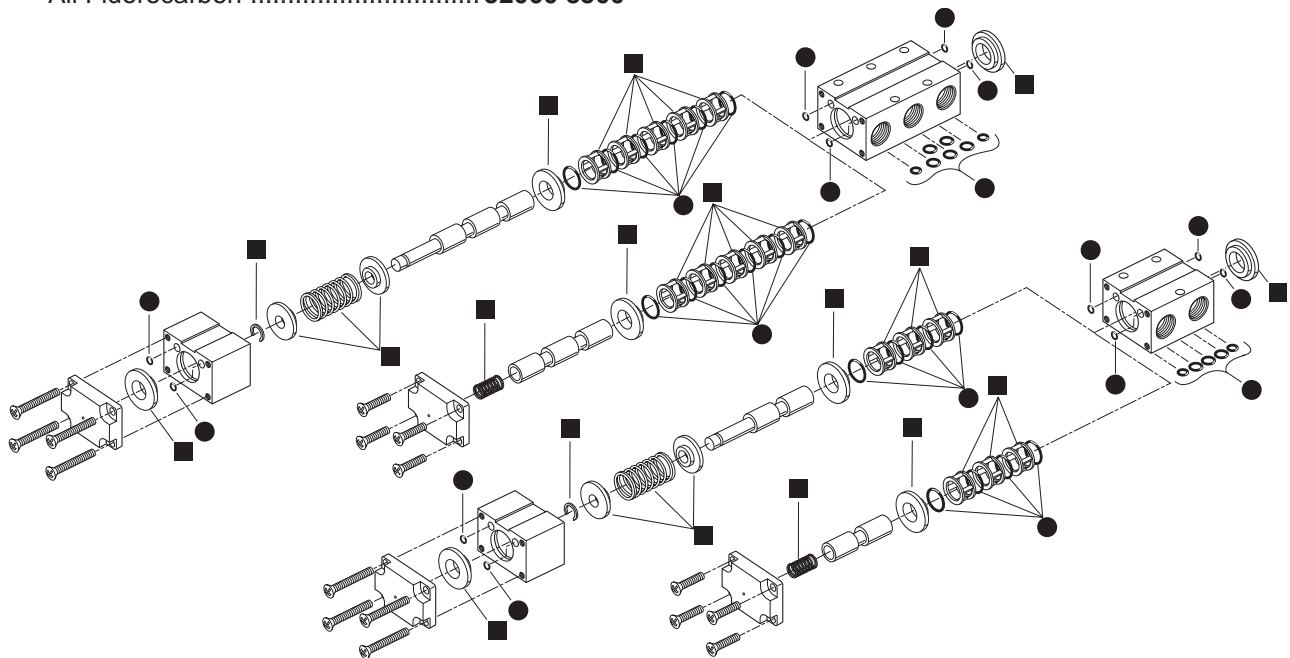
Available for panel mounting direct pipe ported, lever operated "Directair 4" Series valves only. Kit includes a flange and two screws.



Service Kits

- Valve Seal Kit **52000 8050**
 (Contains all soft seals found in 3 & 4-Way bodies and all actuator styles.)
 All Fluorocarbon **52000 8500**

- Body Service Kit **52001 8005**
 (Contains bushing, springs, retainers and shell from 2 & 3-Position, 3 & 4-Way bodies.)



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Operating Pressure

Vacuum to 150 PSI (28" Hg to 1035 kPa)

Temperature Range

32°F to 175°F (0°C to 80°C)

⚠ CAUTION:

If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.

Materials

Body and Operator Housings.....Aluminum Extrusion
 SpoolStainless Steel
 Bushings and Pilot PistonBrass
 Dynamic SealsFluorocarbon
 U-CupsBuna (Nitrile)
 SpacersAluminum

Lubrication

For maximum service life use clean, lubricated air.
 Valves are shipped pre-lubricated and can be operated without additional lubrication with reduced service life.

Suggested Lubricant

F442 Oil

Flow Rating (Cv)

Flow Path	Direct Pipe Ported 1/4" Ports	Subbase Mounted 1/4" Side Ports
1 → 2	.82	.64
1 → 4	.84	.66
2 → 3	.84	.63
4 → 5	.83	.63
Avg.	.83	.64

Mechanically Operated Actuating Forces in Lbs.

	2-Position Spring Return	2-Position Manual Return	3-Position Spring Return	3-Position Manual Return
Button Actuator	13.0	2.0	13.0	N/A
Roller Actuator	13.0	N/A	N/A	N/A
Lever Actuator	4.0	2.0	4.0	2.5

Notes: N/A = Not Applicable
 All valves are at 100 PSIG inlet pressure to the valve.

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Lever

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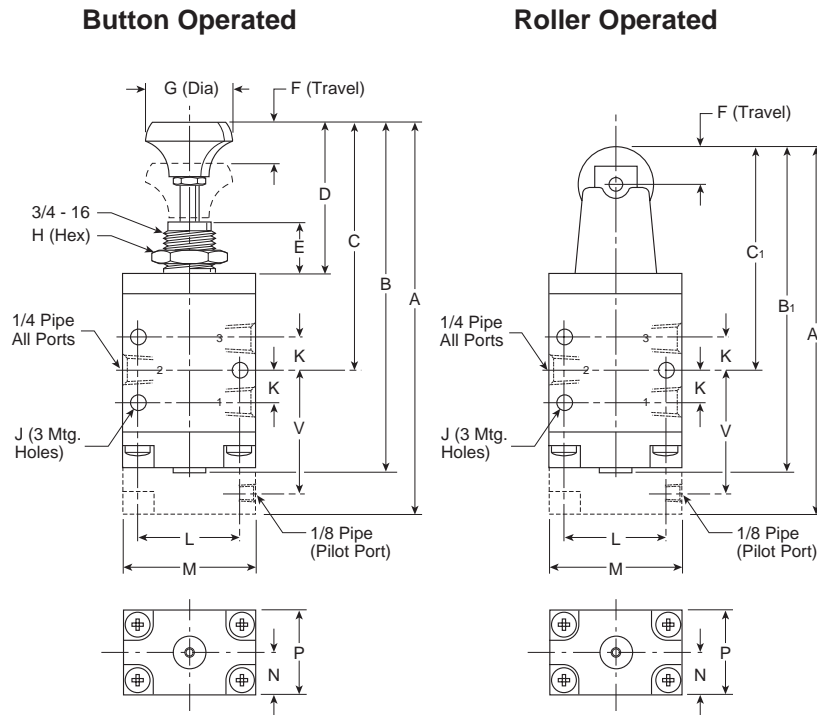
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Button, Roller & Treadle Operated

3-Way, 3-Port, 2-Position

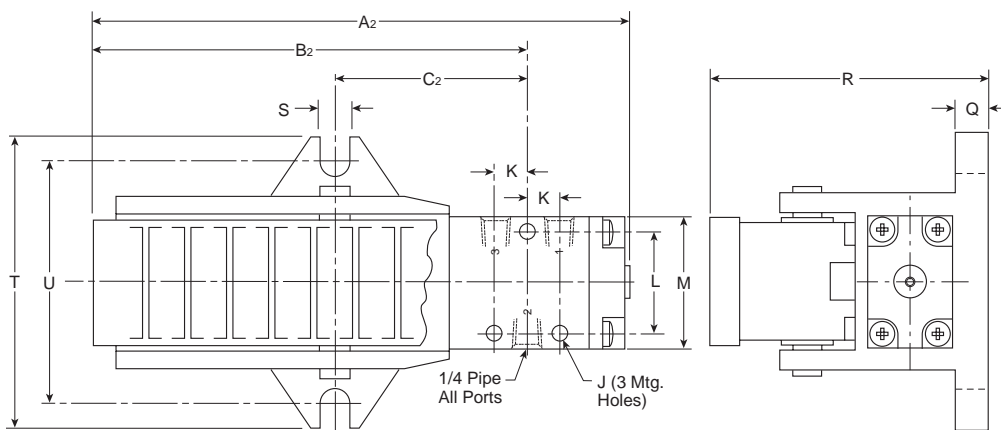


3-Way, 3-Port, 2-Position

A 4.91 (125)	A₁ 4.25 (108)	A₂ 6.55 (166)	B 4.44 (113)	B₁ 3.78 (96)
B₂ 5.20 (132)	C 3.10 (79)	C₁ 2.44 (62)	C₂ 2.19 (56)	D 2.00 (51)
E .63 (16)	F .32 (8)	G 1.05 (27)	H 1.00 (25)	J .19 (5)
K .41 (10)	L 1.25 (32)	M 1.63 (42)	N .53 (14)	P 1.06 (27)
Q .37 (10)	R 2.40 (61)	S .34 (9)	T 3.50 (89)	U 3.00 (76)
V 1.52 (39)				

Inches (mm)

Treadle Operated

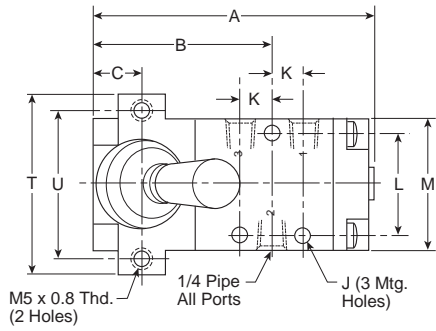


CAUTION:
 This valve shall not be used to actuate a punch press.
 Do not use this valve on punch presses or press
 brakes. See OSHA 1910.217.
 See Accessories page for Pedal Guard Kit.

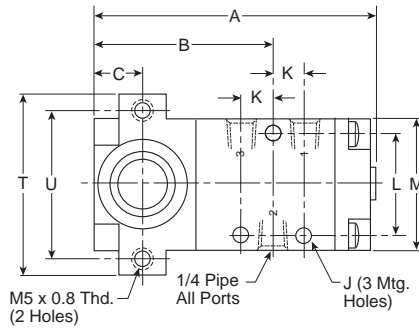
Lever & Pedal Operated

3-Way, 3-Port, 2 & 3-Position

**Lever Operated
 2-Position**



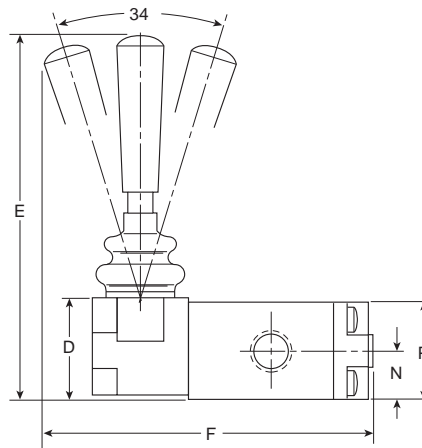
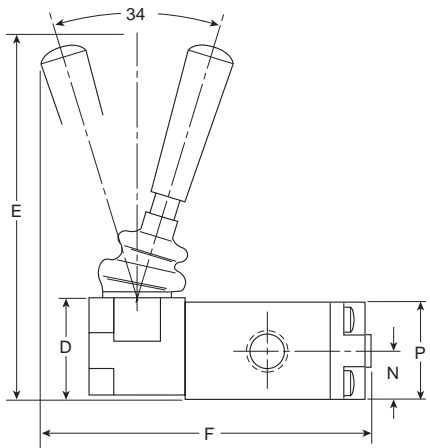
**Lever Operated
 3-Position**



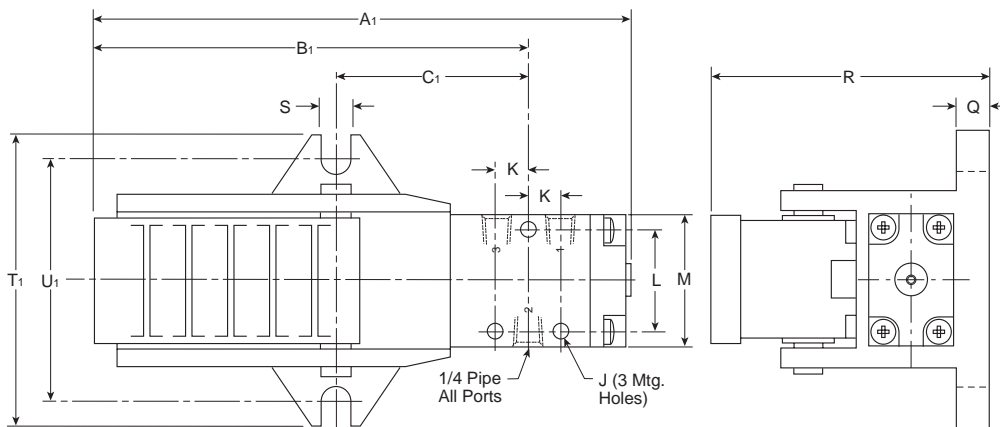
**3-Way, 3-Port,
 2 & 3-Position**

A 3.31 (84)	A₁ 6.55 (166)	B 1.97 (50)	B₁ 5.20 (132)	C .53 (14)
C₁ 2.19 (56)	D 1.12 (28)	E 4.06 (103)	F 3.90 (99)	J .19 (5)
K .41 (10)	L 1.25 (32)	M 1.63 (42)	N .53 (14)	P 1.06 (27)
Q .37 (10)	R 2.40 (61)	S .34 (9)	T 2.13 (54)	T₁ 3.50 (89)
U 1.75 (44)	U₁ 44 (76)			

Inches (mm)



Pedal Operated



CAUTION:

*This valve shall not be used to actuate a punch press.
 Do not use this valve on punch presses or press
 brakes. See OSHA 1910.217.
 See Accessories page for Pedal Guard Kit.*

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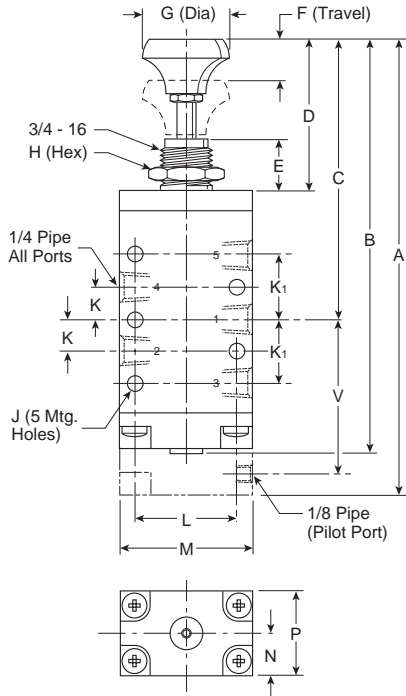
Directair
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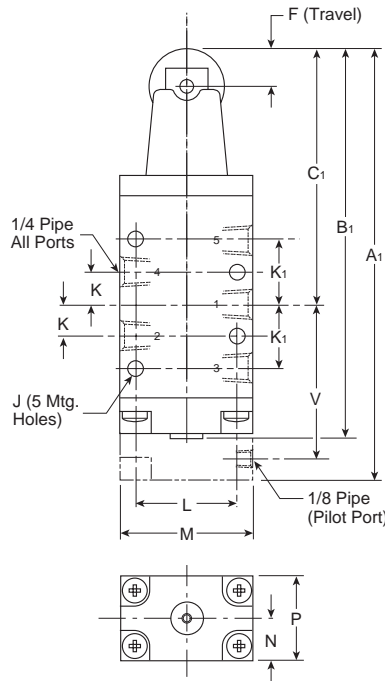
Button, Roller, Pedal & Treadle Operated

4-Way, 5-Port, 2-Position

Button Operated



Roller Operated

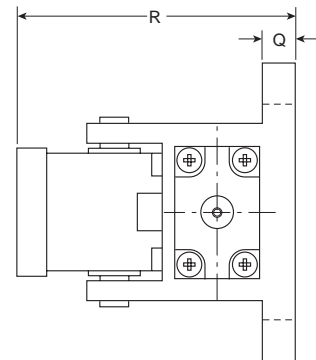
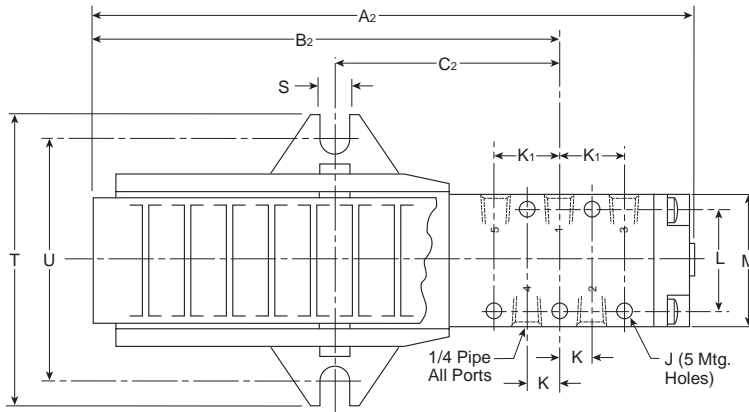


4-Way, 5-Port, 2-Position

A 5.75 (146)	A₁ 5.13 (130)	A₂ 7.41 (189)	B 5.28 (134)	B₁ 4.66 (118)
B₂ 5.63 (143)	C 3.50 (89)	C₁ 2.88 (73)	C₂ 2.64 (67)	D 2.00 (51)
E .63 (16)	F .32 (8)	G 1.05 (27)	H 1.00 (25)	J .19 (5)
K .44 (11)	K₁ .84 (21)	L 1.25 (32)	M 1.63 (41)	N .53 (14)
P 1.06 (27)	Q .37 (10)	R 2.40 (61)	S .34 (9)	T 3.50 (89)
U 3.00 (76)	V 1.96 (50)			

Inches (mm)

Pedal and Treadle Operated



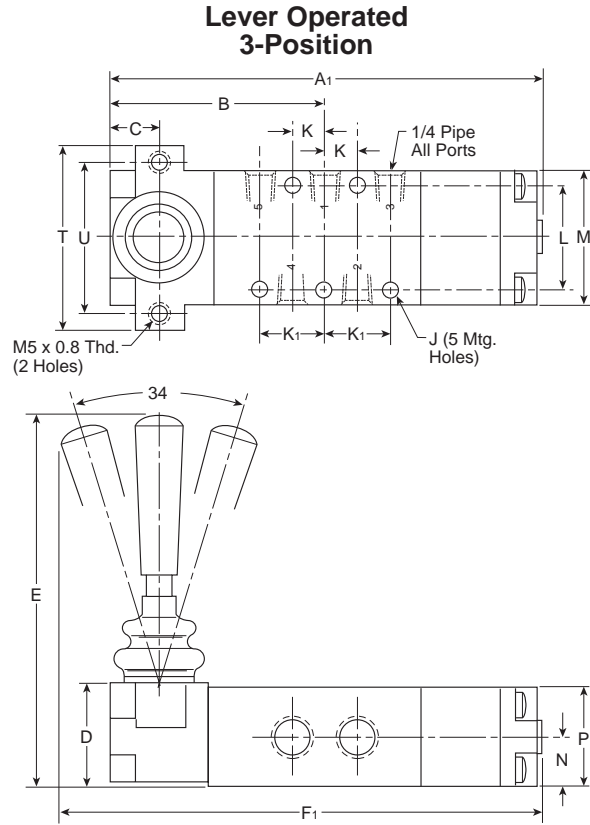
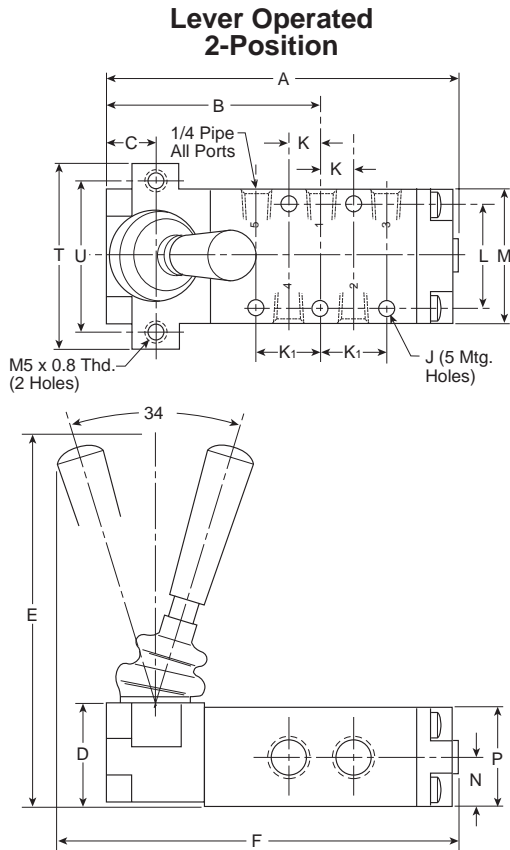
CAUTION:

This valve shall not be used to actuate a punch press.
 Do not use this valve on punch presses or press
 brakes. See OSHA 1910.217.
 See Accessories page for Pedal Guard Kit.

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 Directair
 2

Lever Operated

4-Way, 5-Port, 2 & 3-Position



**4-Way, 5-Port,
 2 & 3-Position**

A 4.19 (106)	A₁ 5.09 (129)	B 2.41 (61)	C .53 (14)	D 1.12 (28)
E 4.06 (103)	F 4.78 (121)	F₁ 5.78 (147)	J .19 (5)	K .44 (11)
K₁ .84 (21)	L 1.25 (32)	M 1.63 (42)	N .53 (14)	P 1.06 (27)
T 2.13 (54)	U 1.75 (44)			

Inches (mm)